

Appl. No. 09/787,303

Art Unit 1772

November 26, 2003

Reply to Office Action of August 28, 2003

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the present application.

Listing of Claims:

Claim 1. (Previously Presented) A polytetrafluoroethylene block-shaped molded article having a melt viscosity and a block deformation amount contained within a polygonal region surrounded by a straight line A: $x = 1.0 \times 10^9$ (melt viscosity of 1.0×10^9 poise), a straight line B: $x = 2.5 \times 10^{10}$ (melt viscosity of 2.5×10^{10} poise), a straight line C1: $y = 7.0$ (block deformation amount of 7.0%), a straight line D1: $y = 0$ (block deformation amount of 0%), a straight line E1: $y = -8.7 \log_{10}(x) + 91$ in a graph with an x-axis being a common logarithm of the melt viscosity (poise) at 380°C of polytetrafluoroethylene and a y-axis being the block deformation amount (%) which is a weight loss until a stable film or sheet is cut from the molded article,

wherein the polytetrafluoroethylene block-shaped molded article is obtained by compression-molding and baking a polytetrafluoroethylene powder obtained by suspension polymerization, and

said polytetrafluoroethylene block-shaped molded article is cylindrical and has a height of at least 800 mm.

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Claim 2. (Previously Presented) The molded article according to claim 1, wherein the melt viscosity at 380°C of the molded article is at most 2×10^{10} poise.

Claim 3. (Previously Presented) The molded article according to claim 1, wherein the block deformation amount is more than 0.7%.

Claim 4. (Canceled)

Claim 5. (Withdrawn) A method of producing a polytetrafluoroethylene block-shaped molded article, comprising inserting a polytetrafluoroethylene preform obtained by compression-molding a polytetrafluoroethylene powder, into a pipe in a state in which a symmetry axis of the preform is horizontal; placing the pipe on two rolls spaced apart in a horizontal direction; and heating the preform to bake the preform while rotating the pipe and the preform by rotating at least one roll to transmit a rotation of the roll to the pipe, whereby giving the polytetrafluoroethylene block-shaped molded article.

Claim 6. (Withdrawn) The method according to claim 5, wherein a load per unit area at the time of baking the preform is at most 100 g/cm².

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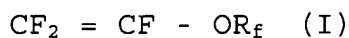
Claim 7. (withdrawn) The method according to claim 5, wherein an expansion of the height of the block-shaped molded article which is generated at the time of producing the polytetrafluoroethylene block-shaped molded article from the preform is at least 6%.

Claim 8. (Withdrawn) A method of producing a polytetrafluoroethylene block-shaped molded article, comprising inserting a polytetrafluoroethylene preform obtained by compression-molding a polytetrafluoroethylene powder, into a pipe in a state in which a symmetry axis of the preform is horizontal; placing the pipe on two rolls spaced apart in a horizontal direction; and heating the preform to bake the preform while rotating the pipe and the preform by rotating at least one roll to transmit a rotation of the roll to the pipe, wherein the polytetrafluoroethylene block-shaped molded article is produced and has a melt viscosity and a block deformation amount contained within a polygonal region surrounded by a straight line A: $x = 1.0 \times 10^9$ (melt viscosity of 1.0×10^9 poise), a straight line B: $x = 2.5 \times 10^{10}$ (melt viscosity of 2.5×10^{10} poise), a straight line C1: $y = 7.0$ (block deformation amount of 7.0%), a straight line D1: $y = 0$ (block deformation amount of 0%), and a straight line E1: $y = -8.7 \log_{10}(x) + 91$ in a graph with an x-axis being a common logarithm of the melt viscosity (poise) at 380°C of polytetrafluoroethylene and a y-axis being the block deformation amount

(%) which is a weight loss until a stable film or sheet can be cut from the molded article.

Claim 9. (Previously Presented) The polytetrafluoroethylene block-shaped molded article of claim 1, wherein the polytetrafluoroethylene powder in said polytetrafluoroethylene block-shaped molded article is a copolymer of tetrafluoroethylene and another fluoromonomer.

Claim 10. (Previously Presented) The polytetrafluoroethylene block-shaped molded article of claim 1, wherein the polytetrafluoroethylene powder in said polytetrafluoroethylene block-shaped molded article is a copolymer of tetrafluoroethylene and another perfluorovinylether of the formula (I):

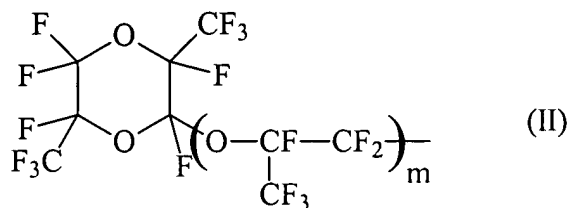


wherein R_f is

a perfluoroalkyl group having 1 to 10 carbon atoms,

a perfluoro(alkoxyalkyl) group having 4 to 9 carbon atoms,

a group represented by the formula (II):



wherein m is a number of 0 to 4, or

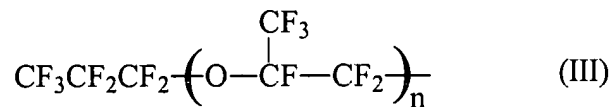
a group represented by the formula (III):

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wherein n is a number of 1 to 4.

Claim 11. (Previously Presented) The polytetrafluoroethylene block-shaped molded article of claim 1, wherein the polytetrafluoroethylene block-shaped molded article has a roundness degree of not more than 5.0%.

Claim 12. (Previously Presented) The polytetrafluoroethylene block-shaped molded article of claim 1, wherein the polytetrafluoroethylene block-shaped molded article has a roundness degree of not more than 0.3%.

Claim 13. (Previously Presented) The polytetrafluoroethylene block-shaped molded article of claim 1, wherein the polytetrafluoroethylene block-shaped molded article has a deformation degree of not more than 15%.

Claim 14. (Previously Presented) The polytetrafluoroethylene block-shaped molded article of claim 1, wherein the polytetrafluoroethylene block-shaped molded article has a deformation degree of not more than 1.0%.

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Claim 15. (Previously Presented) The polytetrafluoroethylene block-shaped molded article of claim 1, wherein the polytetrafluoroethylene block-shaped molded article has a bend of not more than 2.0%.

Claim 16. (Previously Presented) The polytetrafluoroethylene block-shaped molded article of claim 1, wherein the polytetrafluoroethylene block-shaped molded article has a bend of not more than 0.1%.

Claim 17. (Previously Presented) The polytetrafluoroethylene block-shaped molded article of claim 1, wherein the height of said polytetrafluoroethylene block-shaped molded article is 20 cm to 150 cm.

Claim 18. (New) A polytetrafluoroethylene block-shaped molded article, said molded article is produced by a method comprising:

inserting a polytetrafluoroethylene preform obtained by compression-molding a polytetrafluoroethylene powder, into a pipe in a state in which a symmetry axis of the preform is horizontal; placing the pipe on two rolls spaced apart in a horizontal direction; and heating the preform to bake the preform while rotating the pipe and the preform by rotating at least one roll to transmit a rotation of the roll to the pipe, wherein the polytetrafluoroethylene block-shaped molded article is produced and has a melt viscosity and a block deformation amount contained within a polygonal region surrounded by a straight line A: $x =$

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1.0×10^9 (melt viscosity of 1.0×10^9 poise), a straight line B: $x = 2.5 \times 10^{10}$ (melt viscosity of 2.5×10^{10} poise), a straight line C1: $y = 7.0$ (block deformation amount of 7.0%), a straight line D1: $y = 0$ (block deformation amount of 0%), and a straight line E1: $y = -8.7 \log_{10}(x) + 91$ in a graph with an x-axis being a common logarithm of the melt viscosity (poise) at 380°C of polytetrafluoroethylene and a y-axis being the block deformation amount (%) which is a weight loss until a stable film or sheet can be cut from the molded article.

Claim 19. (New) The polytetrafluoroethylene block-shaped molded article of claim 18, wherein said molded article is cylindrical and has a height of at least 800 mm.